

EL PASO NATURAL GAS COMPANY

REPORT ON PROPOSED
RHODES UNIT AREA SHOWING
OUTLINE OF PRODUCTIVE ACREAGE,
INITIAL COMMITTED ACREAGE AND
CALCULATIONS FOR RESERVES
AND ROYALTY INTEREST

EPNG CO. ESTIMATED AMOUNT OF RECOVERABLE GAS
IN RHODES RESERVOIR AS OF JANUARY 1, 1942

(All gas volumes on 16.4# pressure base)

SWEET GAS AREA

Estimated total productive acres as shown on outline map	2,880 Acres
Total gas production from sweet gas area to January 1, 1942	35,056,077 MCF
Initial average shut-in pressure (Abs.)	1,363.2 Lbs.
Present average shut-in pressure (Abs.)	483.2 Lbs.
Drop in reservoir pressure to January 1, 1942	880.0 Lbs.
MCF recovery per pound drop in reservoir pressure to January 1, 1942 (35,056,077 ÷ 880#)	39,836 MCF
Effective reservoir pressure to 50# (Abs.) abandonment pressure	420.0 Lbs.
Estimated reserve for area to 50# (Abs.) abandonment pressure	16,732,800 MCF
Estimated recovery per acre to 50# (Abs.) abandonment pressure (16,732,800 ÷ 2,880)	5,810 MCF

DISTRIBUTION OF ACREAGE AND RESERVES
BY COMPANIES AND ROYALTY OWNERS
AS SHOWN ON OUTLINE MAP

Texas Company Acreage and Reserves

Location	Acres		Estimated Reserve	
	State	Federal	State	Federal
Sec. 9		200		1,162,000 MCF
Sec. 16	200*		1,162,000 MCF	
Sec. 15		280		1,626,800 MCF
Sec. 21		120		697,200 MCF
Sec. 21		80		464,800 MCF
Sec. 22		640		3,718,400 MCF
Sec. 23		80		464,800 MCF
Sec. 28	80*		464,800 MCF	
Sec. 27	40*		232,400 MCF	
Sec. 27		<u>40</u>		<u>232,400 MCF</u>
Total	320*	1,440	1,859,200 MCF	8,366,400 MCF
Total Texas Co.		1,760		10,225,600 MCF
Total Texas Co. less 80 acres in Sec. 21 owned by Texas Co. separately		1,680		9,760,800 MCF

* Initial State Committed Acreage

Total Initial State Committed Acreage 320

Total Reserve for Initial State Committed Acreage
 $320 \times 5,810 = 1,859,200 \text{ MCF}$

Stanolind Acreage and Reserves

Location	Acres		Estimated Reserve	
	State	Federal	State	Federal
Sec. 15		120		697,200 MCF
Sec. 23		40		232,400 MCF
Sec. 28		<u>40</u>		<u>232,400 MCF</u>
Total		200		1,162,000 MCF

	<u>Location</u>	<u>Acres</u>		<u>Estimated Reserve</u>	
		<u>State</u>	<u>Federal</u>	<u>State</u>	<u>MCF Federal</u>
Western Gas Company Acreage and Reserves:	Sec. 16	40*		232,400	
Krupp & Flaherty	Sec. 21		440		2,556,400
Ohio Oil Company Acreage and Reserves:	Sec. 16	120*		697,200	
Cities Service Oil Company Acreage and Reserves:	Sec. 16	160*		929,600	
Skelly Oil Company Acreage and Reserves:	Sec. 16	80*		464,800	
T. H. Flint Acreage and Reserves:	Sec. 16	40*		232,400	
Amerada Oil Company Acreage and Reserves:	Sec. 27	40*		232,400	
Total		800*	2,080	4,648,000	12,084,800

* Initial State Committed Acreage

Area Total	2,880	16,732,800
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Total Initial State Committed Acreage in Sweet Gas Area	800 Acres
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Estimated Reserve Under Initial State

Committed Acreage in Sweet Gas Area - $800 \times 5,810 = 4,648,000$ MCF

List of Producing Gas Wells
in Sweet Gas Area Showing
Accumulated Production to 1-1-42

<u>COMPANY</u>	<u>WELL</u>	<u>LOCATION</u>	<u>ACCUMULATED PRO- DUCTION TO 1-1-42</u>
Texas Company	Cagle B-1	NWSW Sec. 15 T26 R37	9,454,105 MCF
Texas Company	Cagle B-2	NWSW Sec. 15 T26 R37	2,291,053 "
Texas Company	Moberly B-1	NENE Sec. 21 T26 R37	2,194,092 "
Texas Company	Moberly B-2	NWNE Sec. 21 T26 R37	50,253 "
Texas Company	Rhodes A-1	NENW Sec. 22 T26 R37	13,010,417 "
Texas Company	Rhodes A-2	NWSE Sec. 22 T26 R37	3,031,868 "
Stanolind	Gregory B-1	SWNW Sec. 15 T26 R37	944,737 "
Texas Company	State Y-1	SENE Sec. 16 T26 R37	1,468,509 "
Western Gas Co.	State A-1	SESE Sec. 16 T26 R37	2,611,043 "
Krupp & Flaherty	Moberly C-2	SWSE Sec. 21 T26 R37	(Shut in) 0 "
Krupp & Flaherty	Moberly C-3	SWNW Sec. 21 T26 R37	(Shut in) 0 "

35,056,077 MCF

SOUR GAS AREA

Estimated total productive acres as shown on outline map	1,760 Acres
Total gas production from sour gas area to January 1, 1942	31,525,384 MCF
Initial average shut-in pressure (Abs.)	1,363.2 Lbs.
Present average shut-in pressure (Abs.)	663.2 lbs.
Drop in reservoir pressure to 1/1/42	700.0 lbs.
MCF recovery per pound drop in reservoir pressure to 1/1/42 (31,525,384 ÷ 700)	45,036 MCF
Effective reservoir pressure to 50# (Abs.) abandonment pressure	600.0 lbs.
Estimated reserve for area to 50# (Abs.) abandonment pressure	27,021,600 MCF
Estimated recovery per acre to 50# (Abs.) abandonment pressure (27,021,600 ÷ 1,760)	15,353 MCF

DISTRIBUTION OF ACREAGE AND RESERVES BY COMPANIES AND ROYALTY OWNERS AS SHOWN ON OUTLINE MAP

	<u>Acres</u>		<u>Estimated Reserve MCF</u>	
<u>Location</u>	<u>State</u>	<u>Federal</u>	<u>State</u>	<u>Federal</u>
<u>The Texas Company</u>				
Sec. 5		360		5,527,080
Sec. 8		80		1,228,240
Sec. 9		520		7,983,560
Texas Company total		960		14,738,880

Stanolind Oil and Gas Company

Sec. 33	40	614,120
Sec. 4	140	2,149,420
Sec. 4 SW $\frac{1}{4}$, W $\frac{1}{2}$ NW $\frac{1}{4}$ and W $\frac{1}{2}$ SE $\frac{1}{4}$	320	4,912,960
Stanolind total	500	7,676,500

Gulf Oil Company

Sec. 32	260*	3,991,780
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Western Gas Company

<u>Acres</u>				<u>Estimated Reserve MCF</u>		
<u>Location</u>	<u>State</u>	<u>Federal</u>	<u>Patented</u>	<u>State</u>	<u>Federal</u>	<u>Patented</u>
Sec. 9			40			614,120
Total	260*	1,460	40	3,991,780	22,415,380	614,120

AREA TOTAL	1,760	27,021,280
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* Initial State committed acreage.

Total initial State committed acreage in Sour Gas Area - 260 acres

Estimated total reserves under initial State
committed acreage in Sour Gas Area

260 x 15,353 MCF - 3,991,780 MCF

List of Producing Gas Wells
in Sour Gas Area Showing
Accumulated Production
to January 1, 1942

<u>Company</u>	<u>Well</u>	<u>Location</u>	<u>Acc. Prod. to 1-1-42</u>
Texas Company	Cagle A-1	NESW Sec.9 T26 R37	18,881,926 MCF
Texas Company	Cagle A-2	NENW Sec.9 T26 R37	7,236,171 "
Texas Company	Shepherd B-3	NENE Sec.5 T26 R37	848,973 "
Texas Company	Shepherd B-4	NWSE Sec.5 T26 R37	1,025,372 "
Stanolind	Farnsworth C-1	SESW Sec.4 T26 R37	1,489,702 "
Stanolind	Farnsworth C-2	SWNE Sec.4 T26 R37	2,043,240 "
			<u>31,525,384 MCF</u>

Estimates of Reserves as of January 1, 1942 on the Texas Company Shepherd A-1, located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 6, T26S, R37E; Shepherd B-2 located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 6, T26S R37E; Parker #1 located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 29, T26S, R37E, and Lanehart #1, located in the Center of NE $\frac{1}{4}$ Sec. 29, T25S R37E, Lea County, New Mexico.

SHEPHERD A-1

Initial shut-in pressure (Abs.)	1213.2 lbs.
Present shut-in pressure (Abs.)	813.2 lbs.
Decline in pressure	400.0 lbs.
Total production to Jan. 1, 1942	687 M ² CF
MCF/lb. drop in pressure	1717 MCF
Reservoir abandonment pressure (Abs.)	63.2 lbs.
Estimated reserve (1717 x 750)	1288 M ² CF

SHEPHERD B-2

Initial shut-in pressure (Abs.)	938.2 lbs.
Present shut-in pressure (Abs.)	688.2 lbs.
Decline in pressure	250.0 lbs.
Total production to Jan. 1, 1942	317 M ² CF
MCF/lb. drop in pressure	1,268 MCF
Reservoir abandonment pressure (Abs.)	63.2 lbs.
Estimated reserve (1268 x 625)	793 M ² CF

PARKER #1

Initial shut-in pressure (Abs.)	1333.2 lbs.
Present shut-in pressure (Abs.)	813.2 lbs.
Decline in pressure	520.0 lbs.
Total production to Jan. 1, 1942	2987 M ² CF
MCF/lb. drop in pressure	5,744 MCF
Reservoir abandonment pressure (Abs.)	63.2 lbs.
Estimated reserve (5744 x 750#)	4,308 M ² CF

Estimates of Reserves as of Jan. 1, 1942
on The Texas Company wells, continued

LANEHART #1

The Lanehart #1 is producing from a formation which has a very distinct water-drive and consequently the pressure decline method of calculating gas reserves cannot be applied to this well. This well, as of January 1, 1942, had produced 8,415 M²CF gas and, based on a comparison with other areas that have similar pay thickness, pressures and open flow capacities, it is estimated that approximately 30,000 MCF per acre gas remains to be produced. The estimated reserve would be 30,000 MCF x 160 acres or 4,800 M²CF.

COMPARISON OF ESTIMATES OF RESERVES
AS OF JANUARY 1, 1942 IN THE PROPOSED
RHODES UNIT AREA PLUS PARKER #1, LANE-
HART #1, SHEPHERD A#1 AND SHEPHERD B#2
ESTIMATED BY EPNGCO. AND THE TEXAS CO.

The Texas Co.'s Estimated Reserve of holdings of Texas Co., Columbian Carbon, and Amerada as of January 1, 1942 on which the sales of the gas rights to 4,000 feet under agreement dated 9-25-43 was based (16.4 Pressure Base)	39,000,000 MCF
El Paso Natural Gas Co.'s Estimate exclusive of Parker #1, Lanehart #1, Shepherd A#-1 and Shepherd B#2	
Estimated reserve in Sweet Gas Area from calculation on page 2, line 19	9,760,800 MCF
Estimated reserve in Sour Gas Area from calculation on page 5, line 5	14,738,880 MCF
Estimated reserve for Lanehart #1 from calculation on page 7, line 8	4,800,000 MCF
Estimated reserve for Parker #1 from calculation on page 6, line 35	4,308,000 MCF
Estimated reserve for Shepherd A#1 from calculation on page 6, line 21	1,287,000 MCF
Estimated reserve for Shepherd B#2 from calculation on page 6, line 28	792,000 MCF
EPNGCO. Estimated total reserve of holdings of The Texas Co., Columbian Carbon, and Amerada as of January 1, 1942 on which sale of gas rights to 4,000 feet under agreement dated 9-25-43 was based (16.4 Pressure Base)	35,686,680 MCF
Difference between Texas Co. and El Paso Natural Gas Company Estimate	3,313,320 MCF

CALCULATIONS OF STATE RESERVES
BASED ON OUTLINE MAP AND INITIAL
COMMITTED ACREAGE

Estimated State reserve in Sweet Gas Area from calculation on page 3, line 19	4,648,000 MCF
Estimated State reserve in Sour Gas Area from calculation on page 5, line 22	3,991,780 MCF
Total estimates reserve under initial State committed acreage as of January 1, 1942	8,639,780 MCF
Gas production in 1942 from initial State committed acreage	949,015 MCF
Gas production in 1943 from initial State committed acreage	627,857 MCF
Gas production to 7-1-44 from initial State committed acreage	297,691 MCF
Total gas production in initial State committed acreage from 1/1/42 to 7/1/44	1,874,563 MCF
El Paso Natural Gas Company estimates of total reserves under initial State committed acreage as of January 1, 1942 from calculations above	8,639,780 MCF
Plus % of difference between EPNGCo. and The Texas Company's estimates from cal- culations on page 8, line 28 (22.84% of 3,313,320 MCF)	756,762 MCF
Estimated Total Reserves used herein	9,396,542 MCF
Less production for 1942, 1943 and to 7/1/44 from above	<u>1,874,563 MCF</u>
Estimated total reserves of initial State committed acreage as of 7/1/44 @ 16.4# pressure base	7,521,979 MCF
@ State minimum	.02
	\$150,439.58
@ State royalty rate	.125
	<u>\$18,804.95</u>

If taken in 15 - 25 years = 15 years @ 3% = 145%

145% x \$18,804.95 = \$27,267.18

Estimated total reserve of initial
State committed acreage as of 7-1-44 - 7,521,979 MCF

Proposed injection volume - $\frac{22,226,000}{29,747,979}$ MCF
@ State minimum $\frac{.02}{\$594,959.58}$

Calculations for figures used in paragraph 13 (a) (1) of
Unit Agreement:

$$\frac{27,267.18}{594,959.58} = 4.583\%$$

Calculations for figures used in paragraph 13 (a) (5) of
Unit Agreement:

7,521,979 MCF total reserve for initial committed acreage.

$$\frac{7,521,979 \text{ MCF}}{1,160} = 6,484 \text{ MCF}$$

List of acreage in the Rhodes Unit Agreement:

Township 25 South, Range 37 East

Section 32: $SE\frac{1}{4}$, $E\frac{1}{2}SW\frac{1}{4}$, $S\frac{1}{2}NE\frac{1}{4}$, $SE\frac{1}{4}NW\frac{1}{4}$

Township 26 South, Range 37 East

Section 16: All

Section 27: $N\frac{1}{2}NW\frac{1}{4}$

Section 28: $N\frac{1}{2}NE\frac{1}{4}$

embracing 1,160 initial
committed acres.

TABLE SHOWING ACCUMULATED GAS PRODUCTION
BY WELLS BY YEARS IN RHODES UNIT AREA

Sweet Gas Area

THE TEXAS COMPANY

Cagle B-1			Cagle B-2	
Year	Yearly MCF	Acc. Vol. MCF	Yearly MCF	Acc. Vol. MCF
1936	1,942,108	1,942,108		
1937	2,683,647	4,625,755		
1938	1,892,740	6,518,495	441,333	441,333
1939	1,504,037	8,022,532	450,333	891,666
1940	929,440	8,951,972	394,448	1,286,114
1941	502,133	9,454,105	1,004,939	2,291,053
1942	1,030,665	10,484,770	419,609	2,710,662
Moberly B-1			Moberly B-2	
1938	448,364	448,364		
1939	504,424	952,788		
1940	501,665	1,454,453		
1941	739,639	2,194,092	50,253	50,253
1942	408,204	2,602,296	91,781	142,034
Rhodes A-1			Rhodes A-2	
1929	535,843	535,843		
1930	1,181,919	1,717,762		
1931	943,621	2,661,383		
1932	233,276	2,894,659		
1933	337,103	3,231,762		
1934	1,036,725	4,268,487		
1935	2,345,235	6,613,722		
1936	1,991,462	8,605,184		
1937	1,599,458	10,204,642	626,357	626,357
1938	982,213	11,186,855	765,557	1,391,914
1939	744,415	11,931,270	456,489	1,848,403
1940	469,846	12,401,116	518,860	2,367,263
1941	609,301	13,010,417	669,605	3,031,868
1942	304,832	13,315,249	461,599	3,498,467

THE TEXAS COMPANY
State Y-1

Year	Yearly MCF	Acc. Vol. MCF
1939		
1940	536,925	536,925
1941	931,584	1,468,509
1942	817,872	2,286,381

STANOLIND OIL & GAS COMPANY
Gregory B-1

Yearly MCF	Acc. Vol. MCF
271,936	271,936
414,287	666,223
258,514	944,737
130,473	1,075,210

GREAT WESTERN PRODUCERS, INC. (Purchased by Western Gas Company)
State A-1

1937	14,233	14,233
1938	1,492,263	1,506,496
1939	648,979	2,155,475
1940	432,277	2,587,752
1941	23,291	2,611,043
1942	132,143	2,743,186

TABLE SHOWING ACCUMULATED GAS PRODUCTION

BY WELLS BY YEARS IN RHODES UNIT AREA

Sour Gas Area

THE TEXAS COMPANY

Cagle A-1			Cagle A-2	
Year	Yearly MCF	Acc.Vol. MCF	Yearly MCF	Acc.Vol. MCF
1929	815,116	815,116		
1930	1,468,179	2,283,295		
1931	2,264,359	4,547,654		
1932	1,862,095	6,409,749		
1933	1,657,009	8,066,758		
1934	1,858,877	9,925,635		
1935	1,747,089	11,672,724		
1936	1,425,218	13,097,942		
1937	1,561,440	14,659,382	209,984	209,984
1938	1,259,624	15,919,006	354,263	564,247
1939	1,235,172	17,154,178	2,452,897	3,017,144
1940	924,018	18,078,196	2,242,590	5,259,734
1941	803,730	18,881,926	1,976,437	7,236,171
1942	903,690	19,785,616	2,704,337	9,940,508

Shepherd B-3			Shepherd B-4	
1937	222,825	222,825	231,813	231,813
1938	220,332	443,157	282,305	514,118
1939	163,375	606,532	215,013	729,131
1940	119,897	726,429	160,991	890,122
1941	122,544	848,973	135,250	1,025,372
1942	100,043	949,016	105,790	1,131,162

STANOLIND OIL & GAS COMPANY

Farnsworth C-1			Farnsworth C-2	
1939	115,507	115,507		
1940	666,621	782,128	863,836	863,836
1941	707,574	1,489,702	1,179,404	2,043,240
1942	596,976	2,086,678	1,084,392	3,127,632

EL PASO NATURAL GAS COMPANY

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OUTLINE OF PRODUCTIVE ACREAGE,
ORIGINAL UNIT AREA, INITIAL
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CALCULATIONS FOR RESERVES
AND ROYALTY INTEREST

EPNG CO. ESTIMATED AMOUNT OF RECOVERABLE GAS
IN RHODES RESERVOIR AS OF JANUARY 1, 1942

(All gas volumes on 16.4# pressure base except those on page 10 which are converted to 15.025# pressure base.)

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Estimated total productive acres as shown on outline map	2,880 Acres
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Estimated reserve for area to 50# (Abs.) abandonment pressure	16,732,800 MCF
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BY COMPANIES AND ROYALTY OWNERS
AS SHOWN ON OUTLINE MAP

Texas Company Acreage and Reserves

<u>Location</u>	<u>Acres</u>		<u>Estimated Reserve</u>	
	<u>State</u>	<u>Federal</u>	<u>State</u>	<u>Federal</u>
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Sec. 16	200		1,162,000 MCF	
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Total Texas Co.		1,760		10,225,600 MCF
Total Texas Co. less 80 acres in Sec. 21 owned by Texas Co. separately		1,680		9,760,800 MCF

* Initial Gov't Committed Acreage

Total Initial Gov't Committed Acreage 1,280

Total Reserve for Initial Gov't Committed Acreage
1,280 x 5,810 = 7,436,800 MCF

Stanolind Acreage and Reserves

<u>Location</u>	<u>Acres</u>		<u>Estimated Reserve</u>	
	<u>State</u>	<u>Federal</u>	<u>State</u>	<u>Federal</u>
Sec. 15		120*		697,200 MCF
Sec. 23		40		232,400 MCF
Sec. 28		40		232,400 MCF
Total		200		1,162,000 MCF

* Initial Gov't Committed Acreage

Total Initial Gov't Committed Acreage 120

Total Reserve for Initial Gov't Committed Acreage
120 x 5,810 = 697,200 MCF

	<u>Location</u>	<u>Acres</u>		<u>Estimated Reserve</u>	
		<u>State</u>	<u>Federal</u>	<u>State</u>	<u>MCF</u> <u>Federal</u>
Western Gas Company Acreage and Reserves:	Sec. 16	40		232,400	
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T. H. Flint Acreage and Reserves:	Sec. 16	40		232,400	
Amerada Oil Company Acreage and Reserves:	Sec. 27	40		232,400	
Total		800	2,080	4,648,000	12,084,800
Area Total		2,880			16,732,800
Total Initial Gov't Committed Acreage in Sweet Gas Area					1,400 Acres
Estimated Reserve Under Initial Gov't					
Committed Acreage in Sweet Gas Area	-	1,400	x 5,810	=	8,134,000 MCF

List of Producing Gas Wells
in Sweet Gas Area Showing
Accumulated Production to 1-1-42

<u>COMPANY</u>	<u>WELL</u>	<u>LOCATION</u>	<u>ACCUMULATED PRO-</u> <u>DUCTION TO 1-1-42</u>
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Krupp & Flaherty	Moberly C-2	SWSE Sec.21 T26 R37 (Shut in)	0 "
Krupp & Flaherty	Moberly C-3	SWNW Sec.21 T26 R37 (Shut in)	0 "
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Estimated reserve for area to 50# (Abs.) abandonment pressure	27,021,600 MCF
Estimated recovery per acre to 50# (Abs.) abandonment pressure (27,021,600 ÷ 1,760)	15,353 MCF

DISTRIBUTION OF ACREAGE AND RESERVES
BY COMPANIES AND ROYALTY OWNERS
AS SHOWN ON OUTLINE MAP

	Location	State	Acres Federal	Estimated Reserve MCF State Federal
Texas Company Acreage & Reserves				
	Sec. 5		360*	5,527,080
	Sec. 8		80*	1,228,240
	Sec. 9		520*	7,983,560
	Texas Company Total		960	14,738,880

*Initial Gov't. Committed Acreage
Total Initial Gov't. Committed Acreage-960
Total Reserve for Initial Gov't.
Committed Acreage - 14,738,880 MCF

<u>Stanolind Acreage & Reserves</u>				
	Sec. 33		40	614,120
	Sec. 4		140	2,149,420
	Sec. 4 SW $\frac{1}{4}$, W $\frac{1}{2}$ NW $\frac{1}{4}$ & W $\frac{1}{2}$ SE $\frac{1}{4}$		320*	4,912,960
	Stanolind Total		500	7,676,500

*Initial Gov't. Committed Acreage
Total Initial Gov't. Committed Acreage-320
Total Reserve for Initial Gov't.
Committed Acreage - 4,912,960 MCF

<u>Gulf Oil Company Acreage & Reserves</u>				
	Sec. 3	260		3,991,780

Western Gas Company Acreage & Reserves

Location	Acres			Estimated Reserve MCF		
	State	Federal	Patented	State	Federal	Patented
Sec. 9			40**			614,120
TOTAL	260	1,460	40	3,991,780	22,415,380	614,120

AREA TOTAL		1,760			27,021,280
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** Initial Committed Acreage by El Paso Natural Gas Company

Total Initial Gov't. Committed Acreage in Sour Gas Area 1,280 Acres

Estimated Total Reserves under Initial Gov't. Committed
Acreage in Sour Gas Area 19,651,840 MCF

List of Producing Gas Wells
in Sour Gas Area Showing
Accumulated Production
to January 1, 1942

<u>Company</u>	<u>Well</u>	<u>Location</u>	<u>Acc. Prod. to 1-1-42</u>
Texas Company	Cagle A-1	NESW Sec.9 T26 R37	18,881,926 MCF
Texas Company	Cagle A-2	NENW Sec.9 T26 R37	7,236,171 "
Texas Company	Shepherd B-3	NENE Sec.5 T26 R37	848,973 "
Texas Company	Shepherd B-4	NWSE Sec.5 T26 R37	1,025,372 "
Stanolind	Farnsworth C-1	SESW Sec.4 T26 R37	1,489,702 "
Stanolind	Farnsworth C-2	SWNE Sec.4 T26 R37	2,043,240 "
			<u>31,525,384 MCF</u>

Estimates of Reserves as of January 1, 1942 on the Texas Company Shepherd A-1, located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 6, T26S, R37E; Shepherd B-2 located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 6, T26S R37E; Parker #1 located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 29, T26S, R37E, and Lanehart #1, located in the Center of NE $\frac{1}{4}$ Sec. 29, T25S R37E, Lea County, New Mexico.

SHEPHERD A-1

Initial shut-in pressure (Abs.)	1213.2 lbs.
Present shut-in pressure (Abs.)	813.2 lbs.
Decline in pressure	400.0 lbs.
Total production to Jan. 1, 1942	687 M ² CF
MCF/lb. drop in pressure	1717 MCF
Reservoir abandonment pressure (Abs.)	63.2 lbs.
Estimated reserve (1717 x 750)	1288 M ² CF

SHEPHERD B-2

Initial shut-in pressure (Abs.)	938.2 lbs.
Present shut-in pressure (Abs.)	688.2 lbs.
Decline in pressure	250.0 lbs.
Total production to Jan. 1, 1942	317 M ² CF
MCF/lb. drop in pressure	1,268 MCF
Reservoir abandonment pressure (Abs.)	63.2 lbs.
Estimated reserve (1268 x 625)	793 M ² CF

PARKER #1

Initial shut-in pressure (Abs.)	1333.2 lbs.
Present shut-in pressure (Abs.)	813.2 lbs.
Decline in pressure	520.0 lbs.
Total production to Jan. 1, 1942	2987 M ² CF
MCF/lb. drop in pressure	5,744 MCF
Reservoir abandonment pressure (Abs.)	63.2 lbs.
Estimated reserve (5744 x 750#)	4,308 M ² CF

Estimates of Reserves as of Jan. 1, 1942
on The Texas Company wells, continued

LANEHART #1

The Lanehart #1 is producing from a formation which has a very distinct water-drive and consequently the pressure decline method of calculating gas reserves cannot be applied to this well. This well, as of January 1, 1942, had produced 8,415 M²CF gas and, based on a comparison with other areas that have similar pay thickness, pressures and open flow capacities, it is estimated that approximately 30,000 MCF per acre gas remains to be produced. The estimated reserve would be 30,000 MCF x 160 acres or 4,800 M²CF.

COMPARISON OF ESTIMATES OF RESERVES
AS OF JANUARY 1, 1942 IN THE PROPOSED
RHODES UNIT AREA PLUS PARKER #1, LANE-
HART #1, SHEPHERD A#1 AND SHEPHERD B#2
ESTIMATED BY EPNGCO. AND THE TEXAS CO.

The Texas Co.'s Estimated reserve of holdings of Texas Co., Columbian Carbon, and Amerada as of January 1, 1942 on which the sales of the gas rights to 4,000 feet under agreement dated 9-25-43 was based (16.4 Pressure Base)	39,000,000 MCF
El Paso Natural Gas Co.'s Estimate exclusive of Parker #1, Lanehart #1, Shepherd A#-1 and Shepherd B#2	
Estimated reserve in Sweet Gas Area from calculation on page 2, line 19	9,760,800 MCF
Estimated reserve in Sour Gas Area from calculation on page 5, line 5	14,738,880 MCF
Estimated reserve for Lanehart #1 from calculation on page 7, line 8	4,800,000 MCF
Estimated reserve for Parker #1 from calculation on page 6, line 35	4,308,000 MCF
Estimated reserve for Shepherd A#1 from calculation on page 6, line 21	1,287,000 MCF
Estimated reserve for Shepherd B#2 from calculation on page 6, line 28	792,000 MCF
EPNGCO. Estimated total reserve of holdings of The Texas Co., Columbian Carbon, and Amerada as of January 1, 1942 on which sale of gas rights to 4,000 feet under agreement dated 9-25-43 was based (16.4 Pressure Base)	35,686,680 MCF
Difference between Texas Co. and El Paso Natural Gas Company estimate	3,313,320 MCF

CALCULATIONS OF GOVERNMENT RESERVES
BASED ON OUTLINE MAP AND INITIAL
COMMITTED ACREAGE

Estimated government reserve in Sweet Gas Area from calculation on page 3, line 18	8,134,000 MCF
Estimated government reserve in Sour Gas Area from calculation on Page 5, line 30	19,651,840 MCF
Estimated Reserves for Shepherd A-1 from calculation on page 6, line 21	1,287,000 MCF
Estimated reserves for Shepherd B-2 from calculation on page 6, line 28	792,000 MCF
Total estimated reserve under initial government committed acreage as of January 1, 1942	29,864,840 MCF
Gas production in 1942 from initial government committed acreage	7,592,479 MCF
Gas production in 1943 from initial government committed acreage (Nov. & Dec. estimated)	5,407,212 MCF
Total gas production in initial government committed acreage from 1/1/42 to 1/1/44	12,999,691 MCF
El Paso Natural Gas Company estimates of total reserves under initial government committed acreage as of January 1, 1942 from calculations above	29,864,840 MCF
Plus difference between EPNGCO. and The Texas Company's estimates from calculations on page 8, line 28	3,313,320 MCF
Estimated Total Reserves used herein	33,178,160 MCF
Less production for 1942 & 1943 from above	<u>12,999,691 MCF</u>
Estimated Total reserves of Initial Government committed acreage as of 1/1/44 @ 16.4 pressure base	20,178,469 MCF

Estimated total reserve of initial Gov't
committed acreage as of 1-1-44 @ 15.025
pressure base -
at Gov't Minimum -

21,994,531 MCF
.05
 \$1,099,726.55
.1033
 \$ 113,601.75

Average Gov't Royalty Rate

If taken in 15 - 25 years = 15 years @ 3% = 145%

145% x \$113,601.75 = \$164,722.54

Estimated total reserve of initial gov't
committed acreage as of 1-1-44 @ 15.025
Pressure Base

21,994,531 MCF

Proposed Injection Volume

65,000,000 MCF
 86,994,531 MCF

@ Gov't Minimum

.05
 \$4,349,726.55

Calculations for figures used in paragraph 13 (a) (1) of Unit Agreement

$\frac{164,722.54}{4,349,726.55} = 3.79\%$

Calculations for figures used in paragraph 13 (a) (4) of Unit Agreement

21,994,531 MCF Gov't reserve 1-1-44
670,318 MCF Reserve on EPNGCo 40 acres which is part
 of initial committed acreage at 15.025# pressure base.
 22,664,849 MCF Total reserve for initial committed acreage.

$\frac{22,664,849 \text{ MCF}}{5,480} = 4,136 \text{ MCF}$

List of Acreage in the Original Proposed Rhodes Unit Area

Section 4: W/2 W/2; E/2 SW/4; W/2 SE/4; SE/4 SE/4

Section 5: All

Section 6: NE/4 NW/4; NE/4; N/2 SE/4; SE/4 SE/4

Section 7: NE/4 NE/4

Section 8: NW/4; N/2 SW/4; SE/4 SW/4; E/2

Section 9: All

Section 10: NW/4 NW/4; S/2 NW/4; S/2

Section 15: All

Section 16: All

Section 17: E/2; E/2 NW/4

Section 20: E/2

Section 21: All

Section 22: All

Section 23: SW/4 NW/4; SW/4

Section 26: All

Section 27: All

Section 28: All

Section 29: E/2 NE/4

All in Township 26 South, Range 37 East, N. M. Meridian.

	<u>Acres</u>	<u>% of Total</u>
Federal Government	7,200	84.5070
State of New Mexico	960	11.2676
Patented Lands	<u>360</u>	<u>4.2254</u>
	8,520	100.0000

Calculations of Average Government Royalty Rate

	5,120 acres @ 12.5%	=	640
Total	<u>2,080</u> " @ 5.0%	=	<u>104</u>
	7,200		744

$$\frac{744}{7,200} = 10.33\% \text{ Average government royalty Rate.}$$

LIST OF COMMITTED ACREAGE IN THE ORIGINAL PROPOSED RHODES UNIT AREA

Sec. 4:

$W\frac{1}{2}NW\frac{1}{4}$; $SW\frac{1}{4}$; $W\frac{1}{2}SE\frac{1}{4}$ and $SE\frac{1}{4}SE\frac{1}{4}$

Sec. 5:

All

Sec. 6:

$NE\frac{1}{4}$; $NE\frac{1}{4}NW\frac{1}{4}$; $N\frac{1}{2}SE\frac{1}{4}$ and $SE\frac{1}{4}SE\frac{1}{4}$

Sec. 7:

$NE\frac{1}{4}NE\frac{1}{4}$

Sec. 8:

$N\frac{1}{2}$; $N\frac{1}{2}SW\frac{1}{4}$; $SE\frac{1}{4}SW\frac{1}{4}$ and $SE\frac{1}{4}$

Sec. 9:

All

Sec. 10:

$NW\frac{1}{4}NW\frac{1}{4}$; $S\frac{1}{2}NW\frac{1}{4}$; $SW\frac{1}{4}SW\frac{1}{4}$ and $SE\frac{1}{4}SE\frac{1}{4}$

Sec. 15;

All except $NW\frac{1}{4}NE\frac{1}{4}$ and $NE\frac{1}{4}NW\frac{1}{4}$

Sec. 17:

$N\frac{1}{2}NE\frac{1}{4}$;

Sec. 21:

$N\frac{1}{2}NE\frac{1}{4}$ and $SE\frac{1}{4}NE\frac{1}{4}$

Sec. 22:

All

Sec. 26:

All

Sec. 27:

$E\frac{1}{2}$

Sec. 28:

$S\frac{1}{2}$

All in T26S, R37E, Lea County, New Mexico.

Total Government committed acreage	5,440 Acres
Total EPNGCO. Committed Acreage (Sec. 9 $SW\frac{1}{4}NE\frac{1}{4}$)	<u>40 Acres</u>
Total committed acreage in Unit Area	5,480 Acres

TABLE SHOWING ACCUMULATED GAS PRODUCTION
BY WELLS BY YEARS IN RHODES UNIT AREA

Sweet Gas Area

THE TEXAS COMPANY

Cagle B-1			Cagle B-2	
Year	Yearly MCF	Acc. Vol. MCF	Yearly MCF	Acc. Vol. MCF
1936	1,942,108	1,942,108		
1937	2,683,647	4,625,755		
1938	1,892,740	6,518,495	441,333	441,333
1939	1,504,037	8,022,532	450,333	891,666
1940	929,440	8,951,972	394,448	1,286,114
1941	502,133	9,454,105	1,004,939	2,291,053
1942	1,030,665	10,484,770	419,609	2,710,662
Moberly B-1			Moberly B-2	
1938	448,364	448,364		
1939	504,424	952,788		
1940	501,665	1,454,453		
1941	739,639	2,194,092	50,253	50,253
1942	408,204	2,602,296	91,781	142,034
Rhodes A-1			Rhodes A-2	
1929	535,843	535,843		
1930	1,181,919	1,717,762		
1931	943,621	2,661,383		
1932	233,276	2,894,659		
1933	337,103	3,231,762		
1934	1,036,725	4,268,487		
1935	2,345,235	6,613,722		
1936	1,991,462	8,605,184		
1937	1,599,458	10,204,642	626,357	626,357
1938	982,213	11,186,855	765,557	1,391,914
1939	744,415	11,931,270	456,489	1,848,403
1940	469,846	12,401,116	518,860	2,367,263
1941	609,301	13,010,417	669,605	3,031,868
1942	304,832	13,315,249	461,599	3,498,467

THE TEXAS COMPANY
State Y-1

STANOLIND OIL & GAS COMPANY
Gregory B-1

Year	Yearly MCF	Acc. Vol. MCF	Yearly MCF	Acc. Vol. MCF
1939			271,936	271,936
1940	536,925	536,925	414,287	666,223
1941	931,584	1,468,509	258,514	944,737
1942	817,872	2,286,381	130,473	1,075,210

GREAT WESTERN PRODUCERS, INC. (Purchased by Western Gas Company)
State A-1

1937	14,233	14,233
1938	1,492,263	1,506,496
1939	648,979	2,155,475
1940	432,277	2,587,752
1941	23,291	2,611,043
1942	132,143	2,743,186

TABLE SHOWING ACCUMULATED GAS PRODUCTION

BY WELLS BY YEARS IN RHODES UNIT AREA

Sour Gas Area

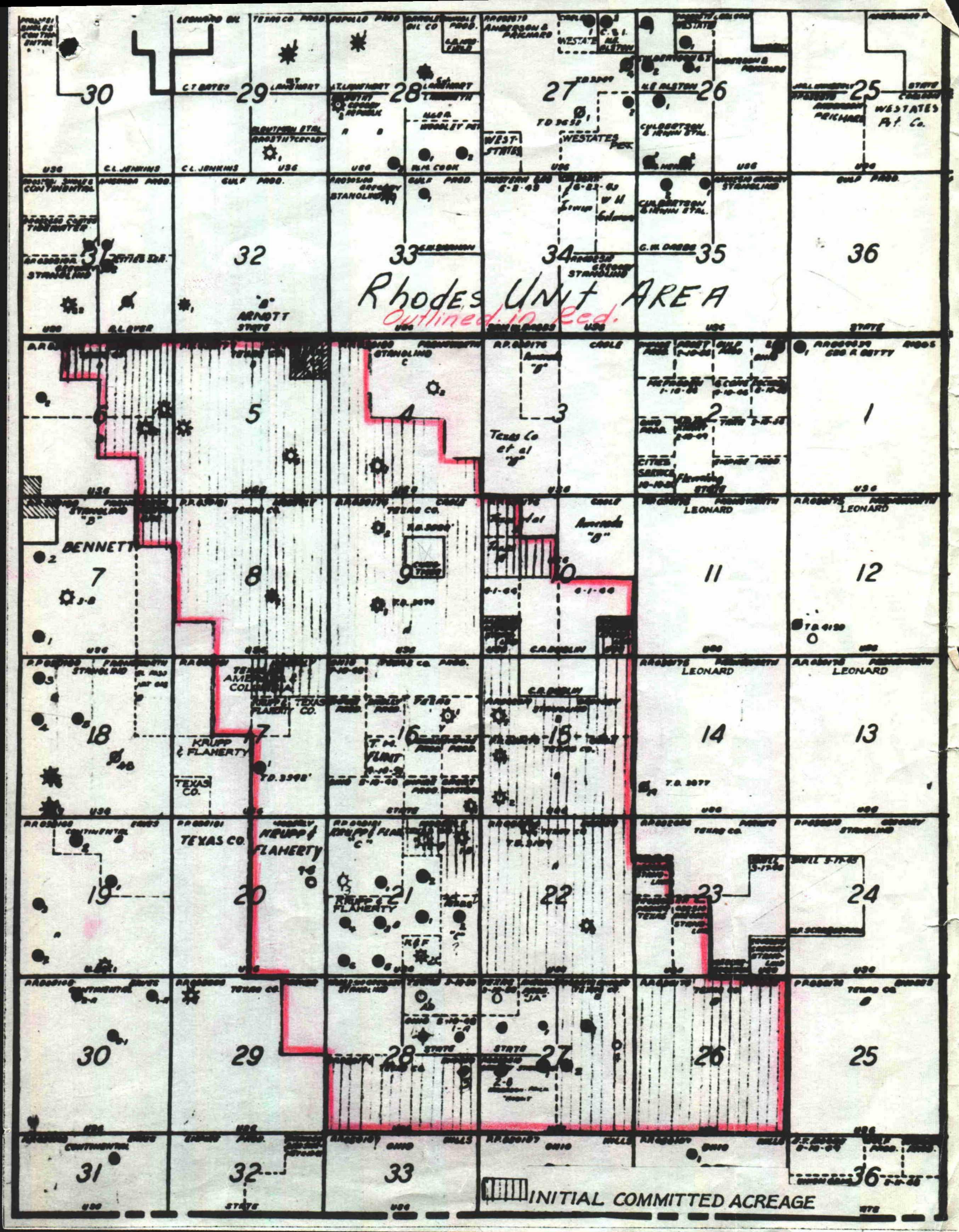
THE TEXAS COMPANY

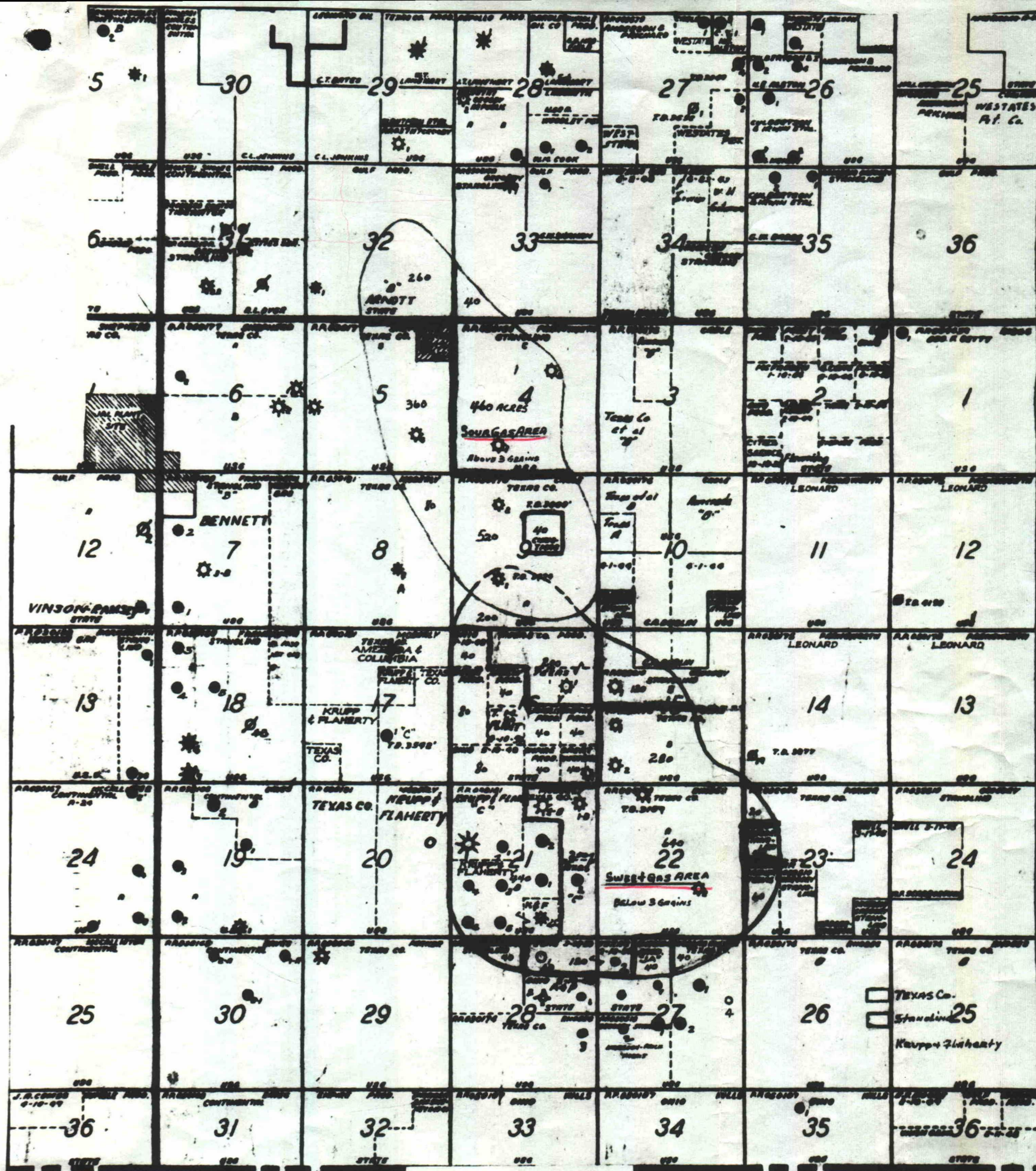
Cagle A-1			Cagle A-2	
Year	Yearly MCF	Acc.Vol. MCF	Yearly MCF	Acc.Vol. MCF
1929	815,116	815,116		
1930	1,468,179	2,283,295		
1931	2,264,359	4,547,654		
1932	1,862,095	6,409,749		
1933	1,657,009	8,066,758		
1934	1,858,877	9,925,635		
1935	1,747,089	11,672,724		
1936	1,425,218	13,097,942		
1937	1,561,440	14,659,382	209,984	209,984
1938	1,259,624	15,919,006	354,263	564,247
1939	1,235,172	17,154,178	2,452,897	3,017,144
1940	924,018	18,078,196	2,242,590	5,259,734
1941	803,730	18,881,926	1,976,437	7,236,171
1942	903,690	19,785,616	2,704,337	9,940,508

Shepherd B-3			Shepherd B-4	
1937	222,825	222,825	231,813	231,813
1938	220,332	443,157	282,305	514,118
1939	163,375	606,532	215,013	729,131
1940	119,897	726,429	160,991	890,122
1941	122,544	848,973	135,250	1,025,372
1942	100,043	949,016	105,790	1,131,162

STANOLIND OIL & GAS COMPANY

Farnsworth C-1			Farnsworth C-2	
1939	115,507	115,507		
1940	666,621	782,128	863,836	863,836
1941	707,574	1,489,702	1,179,404	2,043,240
1942	596,976	2,086,678	1,084,392	3,127,632

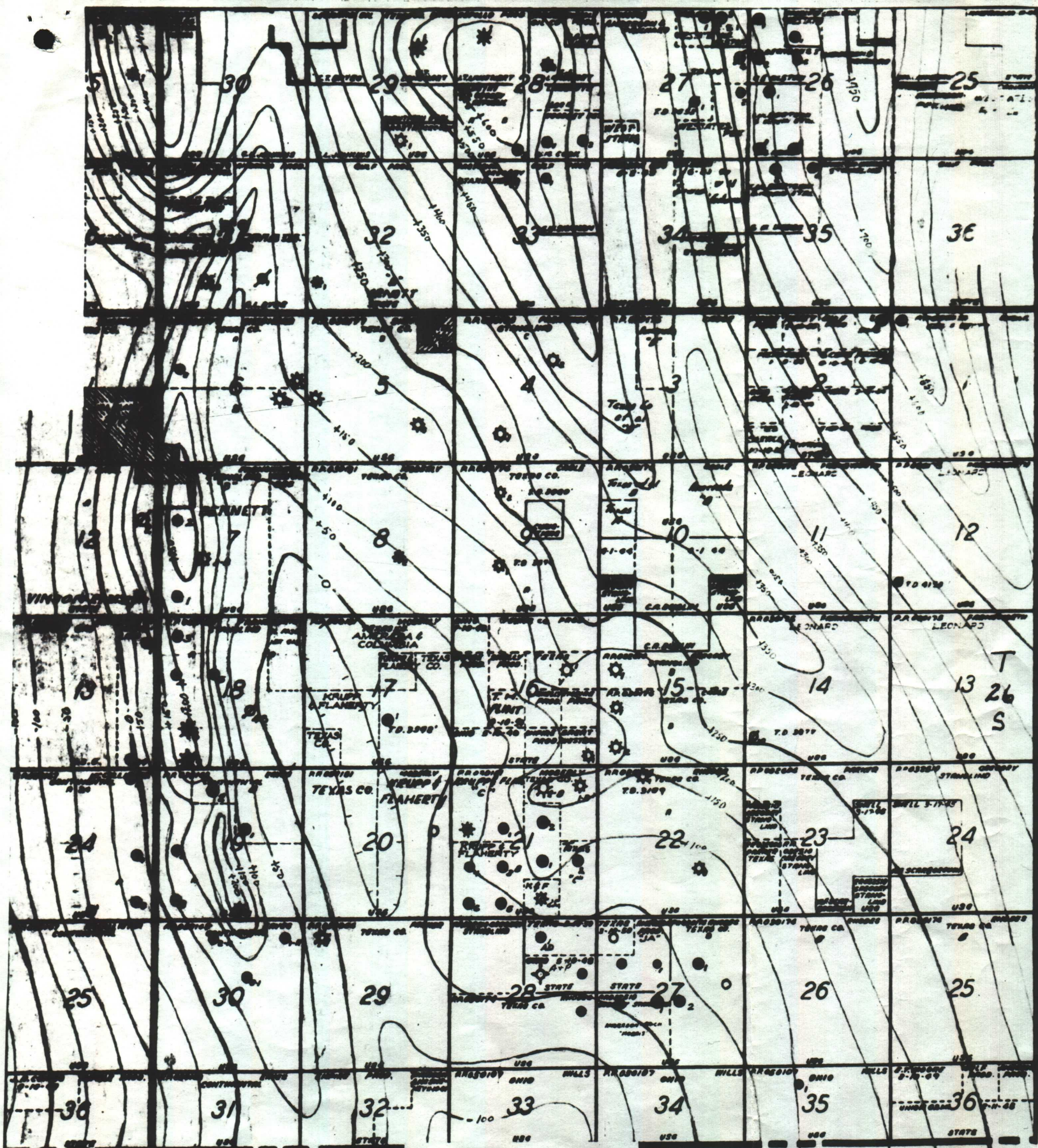




NEW MEXICO

Outline Map
Showing Distribution of
Productive Gas Acreage

STATE L



NEW MEXICO

Contour Map
of Rhodes Field
Contour on Fox Yates Sd.
Interval 50 ft.

STATE L